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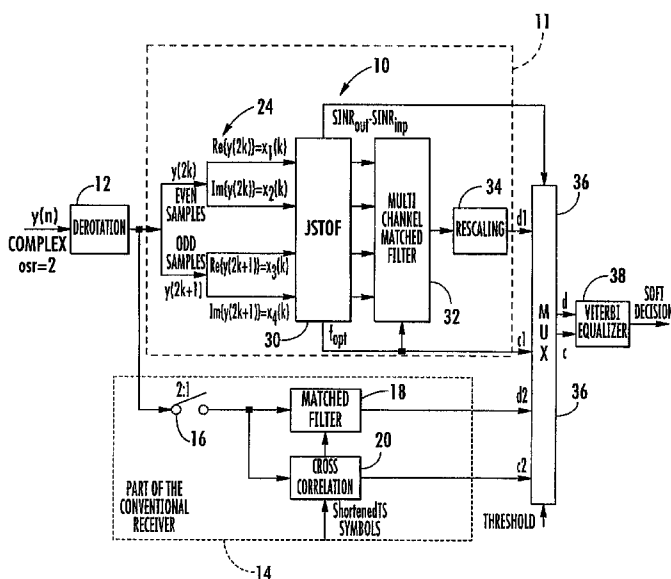
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(54) Title: WIRELESS COMMUNICATIONS DEVICE INCLUDING A JOINT SPACE-TIME OPTIMUM FILTER (JSTOF) USING CHOLESKY AND EIGENVALUE DECOMPOSITIONS



(57) Abstract: A wireless communications device may include a wireless transmitter and a wireless receiver. The wireless receiver may include a filter for reducing co-channel interference and may include a multi-channel, space-time filter circuit that filters n signal parts that have been split from a communications signal by jointly estimating space-time filter weights and multi-channel impulse responses (CIRs) based upon Cholesky and eigenvalue decompositions. The filter may further include a multi-channel, matched filter circuit that receives multi-channel signals from the multi-channel, space-time filter circuit and has a filter response that is provided by a channel impulse response estimation from the space-time filter circuit.

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